U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: DOI-BLM-CO-NOIO-2010-0107EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER:

COC068818: WFU Stover 1-9SE
COC66151: WFU Durham 1-31N

PROJECT NAME East Resources Wells

LEGAL DESCRIPTION: Moffat County, Colorado

1-9SE: NWNE Section 9, T4N, R90W, 6th PM
1-31N: SWSE Section 31, T5N, R90W, 6th PM

APPLICANT: East Resources Inc.

PLAN CONFORMANCE REVIEW: The proposed action is subject to the following plan:

Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD) approved on April 26, 1989; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.

Remarks: The proposed two East Resources Wells would be located within Management Unit 1 (Little Snake Resource Management Plan). One of the objectives of Management Unit 1 is to provide for the development of the oil and gas resource. The development of other resource uses/values within this unit is allowed consistent with the management objectives for oil, gas, and forest resources.

The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

NEED FOR PROPOSED ACTION: To provide for the development of oil and gas resources and to supply energy resources to the American public.

PUBLIC SCOPING PROCESS: The Notice of Staking (NOS) for the two proposed wells have been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning May 20, 2010 when the NOS's were received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The proposed action is to approve two Applications for Permit to Drill (APD) submitted by East Resources, Inc. East Resources proposes to drill two oil wells on private surface and BLM minerals. One well is located in Sec. 31N, T5N, R90W and one well is located in Sec. 9 T4N, R90W. APDs have been filed with the LSFO for the WFU Durham 1-31N and the WFU Stover 1-9SE wells. The APDs include drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by East Resources Inc. in the drilling and surface use plan would be attached by the BLM as Conditions of Approval to an approved APD.

The proposed wells are located approximately 20 miles South of Craig, Colorado. Construction work is planned to start during the Fall of 2010 and the estimated duration of construction and drilling for each well is 14 days. One new access road consisting of 580 feet and 0.4 acres would be constructed for the WFU Durham 1-31N well. The access road for the WFU Stover 1-9SE would be an upgraded existing two track road. Each well pad would be accessed from existing Moffat County roads.

The proposed well pads would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 2.4 acres would be disturbed for the construction of each well pad. This would include the 300' by 350' well pad, the topsoil, and subsoil piles. A blooie pit would be constructed on the well pad to hold drill cuttings. If the well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the oil well proves unproductive, it would be properly plugged and the entire well pad would be reclaimed.

East Resources, Inc. did include plans for an oil pipeline with the APDs. The pipelines will follow the newly constructed or upgraded roads and be contained within the road access road disturbance.

Total surface disturbance for the proposed action would be 21.5 acres. Upon interim reclamation total surface disturbance would be 1.5 acres.

NO ACTION ALTERNATIVE: The "no action" alternative is that the wells would not be permitted and therefore the wells would not be drilled. East Resources, Inc. holds a valid and current oil and gas lease for the area where the proposed Wells would be located. Under leasing contracts, the BLM has an obligation to allow mineral development if the environmental consequences are not irreversible or too severe. The APD process is designed to overcome the no action situation of not accepting the APD through the mitigation of predicted environmental

consequences. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, the no action alternative will not be analyzed further in this EA.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 6/24/10

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 6/24/10

CULTURAL RESOURCES

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences: The proposed projects, WFU Stover 1-9SE and WFU Durham 1-31N, have undergone Class III cultural resource surveys:

Murray, Susan
2010 Class III Cultural Resources Inventory of the East Resources, Inc. Waddle Creek Field Unit Durham 1-31N, 2-31SE Well and Access, Moffat County (BLM 12.34.2010)

Plfepsen, Paula
2010 Class III Cultural Resource Inventory for the East Resources, Inc. WFU Stover #1-9SE Well Pad, Access Road, and Pipeline, Moffat County, Colorado (BLM 12.40.2010)

The survey identified no eligible to the National Register of Historic Places cultural resources. The proposed project may proceed as described with the following mitigative measures in place.

Mitigative Measures:
The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Ethan Morton 8/31/10

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council on May 26, 2009. The letter listed the FY08 and FY09 projects that the BLM would notify them on and projects that would not require notification. A follow-up phone call was performed on July 26, 2009. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Ethan Morton 8/30/10

ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action is located in an area of isolated dwellings. Oil & Gas development, ranching, and farming are the primary economic activities.

Environmental Consequences: The project area is relatively isolated from population centers, so no populations would be affected by physical or socioeconomic impacts of the proposed action.

Mitigative Measures: None.

Name of specialist and date: Louise McMinn 8/3/10

FLOOD PLAINS

Affected Environment: There are 100-year floodplains present within or adjacent to the proposed project areas. Flooding is the temporary inundation of an area caused by overflowing streams or by runoff from adjacent slopes. Water standing for short periods after rainfall or snowmelt is not considered flooding. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. "Rare" means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5% in any year. "Frequent" means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50% in any year but is less than 50% in all months in any year. WFU Stover 1-9SE is adjacent to Herring Draw and is just outside of a floodplain that rarely floods. The access road to the proposed well site crosses this floodplain. WFU Durham 1-31N and the access road is adjacent to Waddle Creek and is within a floodplain that rarely to frequently floods. Waddle Creek itself frequently floods.

Environmental Consequences: The proposed project uses existing roads. No additional construction is proposed within identified floodplains. No threat to human safety, life, welfare, or property will result from the proposed action.

Mitigative Measures: None.

Name of specialist and date: Emily Spencer, 8/3/10

INVASIVE, NONNATIVE SPECIES

Affected Environment: Invasive and noxious weeds are present in the area. Invasive annuals such as downy brome (cheatgrass), halogeton, blue mustard and yellow alyssum are common, occupying disturbed areas. Invasive annual weeds are typically established on disturbed and high traffic areas whereas biennial and perennial noxious weeds are less common in occurrence. Downy brome and halogeton are on the Colorado List C of noxious weeds and efforts to control halogeton are intensifying in this area. Colorado List B noxious weeds that are present in the vicinity and could potentially become established within the project area include houndstongue, Dalmatian toadflax, white top, Canada thistle and other biennial thistles. The BLM is in cooperation with the Moffat County Cooperative Weed Management program to employ the principals of Integrated Pest Management to control noxious weeds on public lands. Additionally, the BLM, Moffat County, livestock operators, pipeline companies and oil and gas operators have formed the Northwest Colorado Weed Partnership to collaborate efforts on controlling weeds and finding the best integrated approaches to achieve results.

Environmental Consequences: The surface disturbing activities and associated traffic involved with drilling these wells, constructing the access roads, and subsequent activities would create an environment and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles and equipment brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife would also assist with the distribution of weed seed into the newly disturbed areas. The annual invasive weed species (downy brome, yellow alyssum, blue mustard and other annual weeds) occurring on adjacent areas and would occupy the disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years. Additional seeding treatments of the disturbed areas may be required in subsequent years if initial seeding efforts have failed.

The perennial and biennial noxious weeds in the area are less frequently established on the uplands but some potential exists for their establishment in draws and swales or areas along the road that would collect additional water. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can be moved onto adjacent rangelands. The operator would be required to control any invasive and/or noxious weeds that become established within the disturbed areas involved with drilling and operating the well.

Mitigation attached as Conditions of Approval to minimize disturbance and obtain successful reclamation of the disturbed areas, as well as weed control utilizing integrated practices, including herbicide applications would help to control the noxious weed species. All principles of Integrated Pest Management should be employed to control noxious and invasive weeds on public lands.

Mitigative Measures: None.

Name of specialist and date: Christina Rhyne 8/9/10

MIGRATORY BIRDS

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality. The LSFO provides both foraging and nesting habitat for a variety of migratory bird species. Several species on the USFWS' Birds of Conservation Concern (BCC) List occupy these habitats within the LSFO.

The Durham 1-31N site supports a sagebrush/grass community. Due to past disturbances, weed infestations and proximity to the county road, habitat value at this site has been degraded. Vegetation at the Stover 1-9SE is comprised of a mountain shrub community with an understory of grasses and forbs. Golden eagles are the only bird on the BCC list that is known to nest in the area. There are two golden eagle nests within a ¼ mile of the Durham 1-31N well and several other nests are located on the cliffs and rocky outcrops in the general area.

Environmental Consequences: Impacts to raptors from oil and gas activity are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, nest abandonment, decreased nest attendance and elimination of essential habitat components. To prevent significant impacts to raptor species, construction and drilling activities should not be allowed during breeding, nesting and raising of the young. Disturbance from oil and gas activities during these critical periods may displace raptors to less suitable habitat, or result in the mortality of young from nest abandonment or decreased nest attendance. Construction and drilling activities should not be allowed between February 1 and August 15 to prevent impacts to golden eagles near the Durham 1-31 well site.

The Proposed Action would temporarily disturb 21.5 acres of migratory bird habitat. Although this disturbance would be minimal on a landscape level, it would decrease patch size and may degrade habitat on a small scale. Indirectly, habitat effectiveness adjacent to the pipelines, new roads and well sites would be reduced as a result of noise and human activity during construction. If construction activities occur during the nesting season, there could be negative impacts to migratory bird species through nest destruction or increased stress leading to nest abandonment.

Mitigative Measures: Durham 1-31N Well - CO-18: Raptor nesting and fledgling habitat. No construction or ground disturbing activities from February 1 – August 15 within a ¼ mile buffer zone around the nest site. During years when nest site is unoccupied after May 15, the seasonal limitation may be suspended. It may also be suspended once the young have fledged and dispersed from the nest site.

Name of Specialist and Date: Desa Ausmus 8/12/10

PRIME & UNIQUE FARMLANDS

Affected Environment: Not Present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/24/10

T&E SPECIES – ANIMALS

Affected Environment: There are no ESA listed, proposed or candidate species that inhabit or derive important benefit from the project area. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the project area.

Environmental Consequences: In May 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities associated with BLM's fluid minerals program in the Colorado River Basin in Colorado. In response to BLM's PBA, the FWS issued a Programmatic Biological Opinion (PBO) (ES/GJ-6-CO-08-F-0006) on December 19, 2008, which determined that BLM water depletions from the Colorado River Basin are not likely to jeopardize the continued existence of the Colorado pike minnow, humpback chub, bonytail, or razorback sucker, and that BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated in January 1988. The Recovery Program serves as the reasonable and prudent alternative to avoid jeopardy and provide recovery to the endangered fishes by depletions from the Colorado River Basin. The PBO addresses water depletions associated with fluid minerals development on BLM lands, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. The PBO includes reasonable and prudent alternatives developed by the FWS which allow BLM to authorize oil and gas wells that result in water depletion while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. As a reasonable and prudent alternative in the PBO, FWS authorized BLM to solicit a one-

time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by fluid minerals activities on BLM lands.

This project has been entered into the Little Snake Field Office fluid minerals water depletion log which will be submitted to the Colorado State Office at the end of the Fiscal Year.

Name of Specialist and Date: Desa Ausmus 8/12/10

T&E SPECIES – PLANTS

Affected Environment: There are no federally listed threatened or endangered plant species within or in the vicinity of either proposed well.

Mitigative Measures: None

Name of specialist and date: Hunter Seim 8/5/10

T&E SPECIES - SENSITIVE PLANTS

Affected Environment: There are no BLM sensitive plant species within or in the vicinity of either proposed well.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 8/5/10

WASTES, HAZARDOUS OR SOLID

Affected Environment: If a release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there would be no impact on the environment.

Environmental Consequences: Consequences would be dependent on the volume and nature of the material released. In most every situation involving hazardous materials, there are ways to remediate the area that has been contaminated. Short-term consequences would occur, but they can be remedied, and long-term impacts would be minimal.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 6/01/09

WATER QUALITY – GROUND

Affected Environment: Potable water is possible in this area. Water within the Wasatch formation produced from a water well, SENE Sec. 31, T 5 N, R 90 W. According to the Colorado Decision Support Systems information, the well is currently active.

Environmental Consequences: With the use of proper construction practices, drilling practices, and best management practices, no significant adverse impact to groundwater aquifers and quality is anticipated to result from the proposed action. A geologic and engineering review was performed on the 8-point drilling plans to ensure that the cementing and casing programs adequately protect the downhole resources.

Mitigative Measures: Onshore Order No. 2 requires that the Operator isolate and protect all fresh- to- moderately saline water (TDS < 10,000 PPM) that is encountered during drilling from communication and contamination with other fluids. The Operator is required to submit a report showing the depth and analysis of all groundwater encountered during drilling.

Name of specialist and date: Marty O'Mara 8/6/10

WATER QUALITY/HYDROLOGY – SURFACE

Affected Environment: Any surface runoff from WFU Durham #1-31 or WFU Stover #1-9SE proposed well sites or access roads would drain into Waddle Creek, a perennial tributary of the Williams Fork River. Water quality for the Williams Fork River (from the confluence of the East Fork and South Fork to the Highway 13/317 bridge at Hamilton) must support Aquatic Life Cold 2, Recreation E, Water Supply, and Agricultural uses. There are no water quality impairments or suspected water quality issues for waters influenced by the project area considered in the proposed action.

Environmental Consequences, proposed action: Surface waters adjacent to or influenced by the proposed project areas are currently supporting classified uses. Increased sedimentation towards Waddle Creek during spring runoff or from high intensity rainstorms is the most likely environmental consequence from the proposed action. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff.

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 8/3/10

Reference: Colorado Department of Public Health and Environment Water Quality Control Commission. 2010. Regulations #33, 37, and 93. http://www.cdphe.state.co.us/regulations/wqccregs/index.html

WETLANDS/RIPARIAN ZONES

Affected Environment: The proposed action occurs on private surface property. No federally managed riparian resources are affected.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Emily Spencer, 8/3/10

WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 6/01/09

WILDERNESS, WSAs

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 6/01/09

NON-CRITICAL ELEMENTS

FLUID MINERALS

Affected Environment: Both proposed wells are in favorability zone 4 (highest for oil and gas potential). The Niobrara formation is the main producing hydrocarbon horizon.

Environmental Consequences: The casing and cementing programs will be adequate to protect the resource identified above. All coal seams and fresh water zones would also be protected. The BOP system is adequately sized.

Mitigative Measures: None.

Name of specialist and date: Marty O'Mara, 8/6/10

PALEONTOLOGY

Affected Environment: The geologic formation at the surface is the Cretaceous Age Iles Formation (Ki). This formation has been classified a Class II formation for the potential for occurrence of scientifically significant fossils. Scientifically significant fossils are occasionally found within this formation (Armstrong & Wolney, 1989). The potential for discovery of significant fossils on this location is considered to be moderate.

Environmental Consequences: If any such fossils are located here, construction activities could damage the fossils and the information that could have been gained from them would be lost. The significance of this impact would depend upon the significance of the fossil. This impact can be effectively mitigated by ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction activities. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The proposed action could also constitute a beneficial impact to paleontological resources by increasing the chances for discovery of scientifically significant fossils.

Mitigative Measures: "Standard Discovery Stip", i.e., "If fossils are discovered during construction or other operations, all activity in the area will cease and the Field Office Manager will be notified immediately. An assessment of significance will be made within an agreed time frame. Operations will resume only upon written notification by the Authorized Officer."

References:Armstrong, Harley J. and Wolney, David G., 1989, Paleontological Resources of Northwest Colorado: A Regional Analysis, Museum of Western Colorado, Grand Junction, CO, prepared for Bur. Land Management, Vol. I of V.

Miller, A.E., 1977, Geology of Moffat County, Colorado, Colo. Geol. Surv. Map Series 3, 1:126,720.

Name of specialist and date: Marty O'Mara, 8/6/10

RANGE MANAGEMENT

Affected Environment: The proposed action occurs on private surface property. No federally managed grazing allotments are affected

Environmental Consequences: There would be no adverse impacts to range management with implementation of the proposed action.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 8/31/2010

SOILS

Affected Environment: The proposed wells would be located within the Torriorthents-Rock outcrop soil-mapping unit. These soils are well drained and found on hill slopes and footslopes. Slopes within this unit average 0 to 99 percent. Theses soils formed in alluvium derived from sedimentary rocks. Runoff is rapid and the hazard of wind and water erosion is moderate to high.

Environmental Consequences: The construction and operation of the two wells would affect soils within and immediately adjacent to the proposed area of disturbance. Increased soil erosion from wind and water would occur during construction of the well pads and access roads. Erosion would continue throughout the operational life of the wells. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur.

Vegetation and soil would be removed from approximately 21.5 acres of land. Soil productivity would decline due to reduced soil microbial activity, impaired water infiltration, mixing of soil horizons, top soil loss, and introduction of weeds. Soil loss from construction would be greatest shortly after project start and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas. Soil erosion would be reduced to an acceptable level with the mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD's. This mitigation would reduce the potential to have excessive sediments and salts in runoff water from the well site.

Mitigative Measures: Additional mitigative measures would be employed to prevent or reduce accelerated erosion if it begins to occur within or on constructed drainage and diversion ditches or surface drainages affected by the roads or well pads.

Name of specialist and date: Roy McKinstry 8/31/10

VEGETATION

Affected Environment:

Durham 1-31N

This site is located in a big sagebrush-grass plant community. Dominant plants present include big sagebrush (*Artemisia tridentata*), fringed sagebrush (*A. frigida*), green rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*C. nauseous*), Gambel oak (*Quercus gambelii*), snowberry (*Symphoricarpos albus*), Kentucky bluegrass (*Poa pratensis*), and basin wildrye (*Leymus cinereus*). Vigor is mostly poor and overall plant abundance is sparse. The site has been subjected to a great deal of disturbance and exhibits a high abundance of exotic, weedy species which include cheatgrass (*Bromus*

tectorum), tansy mustard (*Descurania pinnata*), blue mustard (*Chorispora tenella*), and Scotch thistle (*Onopordum acanthium*).

Stover 1-9SE
This site is located within a mountain shrub plant community that is still in an early successional state due to past disturbance. Dominant plants present include basin big sagebrush (*Artemisia tridentata tridentata*), sulfur cinquefoil (*Potentilla recta*), Wood's rose (*Rosa woodsii*), lupine (*Lupinus* spp.), yarrow (*Achillea millefolium*), basin wildrye (*Leymus cinereus*), orchardgrass (*Dactylis glomerata*), western wheatgrass (*Agropyron smithii*), green needlegrass (*Nassella viridula*), and Kentucky bluegrass (*Poa pratensis*). Vigor, density, and abundance of plants is high, although there are also some non-native, noxious weeds such as houndstongue (*Cynoglossum officinale*), Scotch thistle (*Onopordum acanthium*), and Canada thistle (*Cirsium arvense*).
Environmental Consequences: On each location, the proposed action would result in complete removal of vegetation on approximately 2.4 acres. This disturbance would be minor within the larger landscape and interim reclamation, used if the wells produce, the long term disturbance would be reduced to approximately 1.5 acres per location. If either well does not produce, all of the disturbance would be required to be reseeded with appropriate species. While the direct disturbance would be minor, each of these sites, as well as the surrounding plant communities, are susceptible to invasion by noxious weeds caused by disturbance. Houndstongue, which is especially aggressive as well as toxic to some animals, would readily establish within and adjacent to these wells if the appropriate, and required, weed abatement procedures are not followed.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 8/6/10

WILDLIFE, AQUATIC

Affected Environment: No aquatic wildlife or habitat for aquatic wildlife exists within the Proposed Action area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of Specialist and Date: Desa Ausmus 8/12/10

WILDLIFE, TERRESTRIAL

Affected Environment: The two well sites provide habitat for a variety of big game, small mammals, birds and reptiles. Common species, such as coyotes, cottontail rabbits and ground squirrels likely use these habitats. The project area provides important winter habitat for mule deer and elk.

Environmental Consequences: Impacts to wildlife species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. These impacts are more significant during critical seasons, such as winter or reproduction. Big game species are often restricted to smaller areas during the winter months and may expend high amounts of energy to move through snow, locate food and maintain body temperature. Disturbances during the winter can displace big game, depleting much needed energy reserves and may lead to decreased over winter survival. Big game using important winter range are likely to be disturbed by noise and human activity associated with well pad construction and drilling. These activities should not be permitted from December 1 to April 30 to prevent impacts near the Durham 1-31N well site.

Most small mammals, birds and reptiles using the project area would be capable of avoiding construction equipment and should not be directly harmed by these activities. Some burrowing animals may be killed by construction equipment. This should be considered a short-term negative impact that is not likely to harm populations of any species.

Mitigative Measures: Durham 1-31N Well - CO-09 Big game winter range. No surface disturbing activities between December 1 and April 30 in order to prevent disturbance of big game using critical winter range.

Name of Specialist and Date: Desa Ausmus 8/12/10

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Forest Management	N/A		
Hydrology/Ground			See Water Quality-Ground
Hydrology/Surface			ELS 8/3/10
Range Management		JHS 8/5/10	
Realty Authorizations	LM 08/3/10		
Recreation/Travel Mgmt		KMM 06/01/09	
Socio-Economics		LM 08/03/10	
Solid Minerals		JAM 08/13/10	
Visual Resources		KMM 06/01/09	
Wild Horse & Burro Mgmt	RM 06/29/09		

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts may result from the development of the two oil wells when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the Waddle Creek field. Other past or existing actions near the project area that have influence on the landscape are wildfire, recreation, hunting, grazing, and ranching activities.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the oil and gas lease and adjacent areas include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. Fragmented plant communities can lose resilience to natural and man-made disturbance due to isolation of areas from seed sources necessary for proper age class distribution of plants, and subsequently, a greater opportunity for stressors such as drought to have a more severe impact on the plant community as a whole. The increased disturbance also makes native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. Even with weed control measures applied, the potential for weeds to move further into undisturbed remnant areas increases as these remnants become smaller and more isolated from larger undisturbed areas.

Although big game species are able to adapt to disturbances better than other wildlife, increased development would still have impacts to mule deer and antelope. Timing stipulations adequately protect big game species during critical times of the year; however, continued oil and gas development would lead to decreased use of the habitat due to increased human activity. A significant amount of vehicle traffic occurs with oil and gas development. Impacts to big game may be vehicle-animal collisions, as these are a major cause of mortality for big game species.

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The Proposed Action would not jeopardize the viability of any special status animal population. With implementation of mitigation measures, the project would have minimal impacts to sensitive species or their habitats. The Proposed Action would not preclude this standard from being met.

Name of specialist and date: Desa Ausmus 8/12/10

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD: The project area provides productive habitat for a variety of wildlife species. The project would not jeopardize the viability of any function, or have any discernible effect on animal abundance or distribution at any landscape scale. With implementation of mitigation

measures and successful revegetation, the Proposed Action would not preclude this standard from being met.

Name of specialist and date: Desa Ausmus 8/12/10

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: The site of the proposed Durham 1-31N is not meeting this standard and the site of the proposed Stover 1-9SE is minimally meeting this standard. Due to the nature of the proposed action, complete removal of vegetation on either site would not directly affect the adjacent plant communities, but would result in indirect impact through the addition of new weed vectors. By applying the required reclamation and weed control practices on both locations, the proposed action would meet this standard by improving the sites themselves in the long term through proper reclamation and would not preclude the surrounding plant communities from achieving this standard in the short term by ensuring noxious weeds are unable to increase from current levels.

Name of specialist and date: Hunter Seim 8/6/10

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of either proposed well. This standard does not apply.

Name of specialist and date: Hunter Seim 8/5/10

RIPARIAN SYSTEMS STANDARD: The proposed action occurs on private surface property. This standard does not apply.

Name of specialist and date: Emily Spencer, 8/3/10

WATER QUALITY STANDARD: The proposed action would meet the public land health standard for water quality. Reclamation of the pipeline corridors would be completed immediately after installation to minimize sheet and rill erosion from the corridor. Interim reclamation of the unused area on the well pads would be completed to minimize sheet and rill erosion from the well sites. When the well pads are no longer needed for production operations, the disturbed well pads and access roads would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices would help to reduce accelerated erosion of the sites. There are no water quality impairments or suspected water quality issues for waters influenced by the project area considered in the proposed action.

Name of specialist and date: Emily Spencer, 8/3/10

UPLAND SOILS STANDARD: The proposed action would not meet the upland soil standard for land health, but it is not expected to while the well locations, pipelines, and access roads are used for operations. The well pad sites, pipeline corridors, and access roads would not exhibit the characteristics of a healthy soil. Several Best Management Practices have been designed into

the project or are attached as mitigating measures that would reduce impacts to and conserve soil materials. Upland soil health would return to the well pads, pipeline corridors, and access roads disturbances after reclamation practices and well abandonments have been successfully achieved.

Name of specialist and date: Roy McKinstry 06/01/09

PERSONS/AGENCIES CONSULTED: Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
DOI-BLM-CO-NOIO-2010-0107EA

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.

2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.

4. There are no highly controversial effects on the environment.

5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.

6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.

7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

DECISION AND RATIONALE:
I have determined that approving these two APDs is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD's 12-point surface use plan, well location maps, and the Conditions of Approval are found in the well's case file labeled: COC66151 WFU Durham 1-31N, and COC68818 WFU Stover 1-9SE.

COMPLIANCE PLAN(S):

Compliance Schedule
Compliance will be conducted during the construction phase and drilling phase to insure that all terms and conditions specified in the lease and the approved APD are followed. In the event a producing well is established, periodic inspections as identified through the Inspection and Enforcement Strategy and independent well observations will be conducted. File inspections will include a review of all required reports and the Monthly Report of Operations will be evaluated for accuracy.

Monitoring Plan
The well location and access road will be monitored during the term of the lease for compliance with pertinent Regulations, Onshore Orders, Notices to Lessees, or subsequent COAs until final abandonment is granted; monitoring will help determine the effectiveness of mitigation and document the need for additional mitigative measures.

Assignment of Responsibility
Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Fluid Mineral staff in the Little Snake Field Office. The primary inspector will be the Petroleum Engineering Technician, but the Petroleum Engineer, Natural Resource Specialist, Realty Specialist, and Legal Instruments Examiner will also be involved.

SIGNATURE OF PREPARER:

DATE SIGNED:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

SIGNATURE OF AUTHORIZED OFFICIAL:

DATE SIGNED: